A MIXED METHOD STUDY TO ASSESS THE ROLE OF AN EDUCATIONAL INTERVENTIONS IN FACILITATING THE MENTAL WELLBEING AMONG NURSING UNDERGRADUATE STUDENTS

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TITLE: A Mixed Method Study to assess the role of an educational Intervention in facilitating the mental wellbeing among nursing undergraduate students

1. ABSTRACT

Introduction: University students face developmental transitions, environmental changes, academic and parental pressures, and the high demands of higher education. Nursing curricula often lack initiatives on mental wellbeing. Research must evaluate if structured educational strategies can build student resilience. **Objectives:** This study validates the Warwick-Edinburgh Mental wellbeing Scale (WEMWBS), assesses the prevalence of nursing student wellbeing, and tests the effects of peer mentorship and a multidimensional intervention. Methods: This mixed-methods study screened 249 nursing students using the WEMWBS and implemented a multidimensional intervention comprising courses, team learning, and mentoring. Eighty underperforming students participated in a peer mentorship program, excluding final-year students and those currently receiving psychiatric treatment. Results: WEMWBS was highly reliable and showed 51.4% had low wellbeing. The intervention improved WEMWBS scores ($p<0.001$) for all academic years. Among first- and second-year students, peer mentorship raised wellbeing ($p<0.001$, $d=4.42$), with scores from 36.19 to 55.31. **Conclusion:** Many nursing students experience low wellbeing early in their studies, underscoring the need for broader mental health screening in healthcare fields. Early interventions are key to developing interpersonal and communication skills. Because student distress has many causes, multidisciplinary strategies are needed to reduce long-term impact.

Keywords: Mental wellbeing, Educational intervention, Validity, WEMWBS, Peer mentorship

2. INTRODUCTION

Mental wellbeing is key to overall health and helps individuals handle stress, succeed in school and work, keep up positive relationships, and support their communities. [1] University brings academic demands, social and financial pressures, and changing professional identity challenges that can affect student wellbeing, especially in demanding programs such as nursing. [2]

Globally, nursing students face high rates of distress. Research shows they often have more stress and anxiety than those in other majors. If ignored, poor mental health in school may carry into work, hurting job satisfaction, care quality, staff retention, and the health system.[3] Supporting student wellbeing is key to a strong nursing workforce.[4]

Nursing programs shape students' mental health by affecting stress, coping, and confidence. Few studies exist on positive mental health interventions in nursing curricula. As concerns grow about stress and student dropouts, it is vital to test whether educational strategies can build wellbeing and resilience. [5-8]

Quantitative research shows that educational interventions can lower stress and improve mental health, but they often miss students' personal experiences and contexts. Qualitative research gives detailed insights into students' views but is less generalizable. A mixed-methods approach combines both to understand the effects on mental wellbeing fully. [9]

This study assesses the extent to which the intervention improves mental wellbeing scores and explores how educational strategies enhance psychological health. The findings aim to inform the nursing curriculum, student support, and policy.

3. AIMS AND OBJECTIVES

AIM: Improve the mental wellbeing of all the undergraduate nursing students

OBJECTIVES

1. To validate the Warwick-Edinburgh Mental wellbeing Scale (WEMWBS) in the current research setting.
2. To assess the prevalence of mental wellbeing among undergraduate nursing students.
3. To study the effectiveness of structured peer-guided mentorship in improving academic performance and mental wellbeing among first and second-year nursing students.
4. To assess the impact of multidimensional educational intervention in improving mental wellbeing among all undergraduate nursing students.

4. HYPOTHESIS

An educational intervention will improve the mental wellbeing of nursing students and positively affect their academic performance.

5. BRIEF REVIEW OF LITERATURE

Wellbeing is receiving greater attention globally, including in schools. It has many forms, and there is no clear agreement on its definition. Wellbeing encompasses subjective, psychological, mental, and spiritual health. The Warwick-Edinburgh Mental wellbeing Scale (WEMWBS) is often used to assess student wellbeing. Experts agree that wellbeing is multi-dimensional and not just the absence of illness. For nursing students, this can be tested by the demands of training and study.

5.1 Conceptual Framework of Mental wellbeing

The foundational dimensions of overall mental wellbeing among students are a complex construct comprising hedonic (subjective wellbeing) and eudaimonic (psychological wellbeing) aspects. [10]

5.2 Validation of the Warwick-Edinburgh Mental wellbeing Scale (WEMWBS)

The Warwick–Edinburgh Mental wellbeing Scale (WEMWBS) is a 14-question tool for positive mental health. It is reliable (Cronbach's $\alpha \approx 0.89–0.91$) and consistent over time (≈ 0.83). It measures a single main idea, matches other mental health checks, and is useful for students and community groups.

5.3 Global prevalence of mental wellbeing and need for assessment in developing nations:

Mental health issues among nursing students are a global problem. A meta-analysis said depression affects about 34% of these students, rising to 43% in Asia. Risk increases with heavy coursework, clinic duties, stigma, and few mental health resources. Tracking mental health in developing countries reveals gaps and can shape better nursing programs. At the same time, experts and groups like the WHO now see wellbeing as an important area of study.

5.4 Determinants of Mental wellbeing in Nursing Education

5.4.1. Multifactorial Causes Affecting Mental wellbeing

Many factors shape nursing students' mental health, including academic stress, clinical work, personal coping, and school climate. High stress and psychological problems are linked to specific learning conditions. The high rates of depression show that many issues affect students' wellbeing.

5.4.2. Academic and Clinical Stressors

Academic workload, examinations, clinical placements, and patient care responsibilities are major stressors in nursing education. Evidence shows that exposure to clinical environments, fear of making mistakes, and performance expectations significantly increase stress levels and psychological distress among nursing students, often affecting learning outcomes and overall mental wellbeing. [2,3]

5.4.3. Psychosocial Factors

Psychosocial determinants such as coping strategies, social support, resilience, and adaptation to online or blended learning environments influence mental wellbeing. Interventions that strengthen resilience and adaptive coping mechanisms can mitigate stress and enhance psychological health among nursing students during demanding educational and clinical experiences. [2,6]

5.5 Educational Interventions for Improvement

Educational interventions are widely advocated to mitigate the substantial academic and clinical stressors inherent in nursing education. A rapid systematic review encompassing 223 interventions demonstrated that mindfulness, resilience training, and psychoeducational programs yield significant improvements in wellbeing as measured by the WEMWBS. These findings are consistent with a meta-analysis of university students, which concluded that stress-management and cognitive-behavioural strategies effectively attenuate stress while enhancing psychological health. [8,9]

Research further underscores the necessity of precise measurement and specialised support frameworks. A scoping review highlighted the essential role of validated wellbeing scales in ensuring the accurate assessment and evaluation of such initiatives. Additionally, a meta-analysis specifically targeting nursing students revealed that interventions addressing clinical placement distress, including mentorship and coping-skills training, significantly diminish psychological morbidity, thereby justifying the integration of structured educational support within nursing curricula. [5,10]

5.6 Challenges and Gaps in Implementation

Despite documented benefits, several hurdles remain in integrating wellbeing programs into nursing education.

5.6.1 Implementation Challenges

Implementation of mental-wellbeing interventions in nursing education faces barriers such as heavy academic workload, limited institutional resources, stigma toward mental health, and inconsistent integration of coping or resilience programs within curricula. Variability in clinical

placement environments also limits consistent delivery and effectiveness of support interventions. [3,5,6]

5.6.2 Research Gaps

Existing studies exhibit methodological limitations, including small sample sizes, the lack of controlled trials, and inconsistent measures of wellbeing. Evidence also remains limited on long-term effectiveness and context-specific interventions, particularly in developing countries, highlighting the need for rigorous research using validated scales such as WEMWBS. [2,8,10,12]

6. MATERIALS AND METHODS

6.1 Design of the study

This was an experimental mixed-methods study conducted to provide a comprehensive explanation of the educational intervention's role in improving the mental wellbeing of nursing students. The quantitative method includes pre-intervention scores as baseline scores on the Warwick-Edinburgh Mental wellbeing Scale (WEMWBS) for mental wellbeing, and one formative assessment score to identify students needing additional curricular support (SNACS) across all four phases of nursing students.

6.2 Setting and participants

This study was conducted at Sri Siddhartha School Institute of Nursing, under Sri Siddhartha Academy of Higher Education, Tumkur. The study population consisted of undergraduate B.Sc. Nursing students are enrolled in the institution across different academic years. A total of 249 nursing students were initially screened for academic performance and mental wellbeing.

6.3 Screening and Sample Selection

Mental wellbeing was assessed using a validated questionnaire, and academic performance was evaluated based on formative assessment scores. Based on predefined criteria by university regulations of SSAHE, with formative assessment scores to be obtained with a minimum of 50%, first- and second-year nursing students with <50% of formative assessment scores were identified as students requiring additional curricular support (SNACS). From this screened population, 80 students who were classified as SNACS were recruited into the intervention group.

6.4 a Inclusion Criteria

* Undergraduate B.Sc. Nursing students are enrolled in the institution.

* Students belonging to the first and second academic years (for near-peer guided mentorship)

* Students identified as needing additional curricular support (SNACS) based on university guidelines:

* Below-average performance in formative academic assessments (<50% as per the university guidelines)

* Reduced mental wellbeing scores on screening (<50 as per the scale, with median scores)

* Students who provided written informed consent

* Students willing to participate in the entire duration of the mentorship programme

6.4 b Exclusion Criteria for the SNACS group.

* Final-year nursing students (Exam going) and interns

* Students with regular academic performance do not require additional curricular support.

* Students are currently undergoing formal psychological or psychiatric treatment.

* Students absent during baseline or post-intervention assessments

* Students unwilling to participate or who withdrew consent during the study

We calculated a sample size of 249. The sample size was calculated to estimate the prevalence of mental stress among nursing students. With an expected prevalence (p) of 0.85, obtained from a pilot study by us reflecting a precision (d) of 0.05, and a Z-value of 1.96 for 95% confidence interval, the minimum required sample size was computed using the formula:

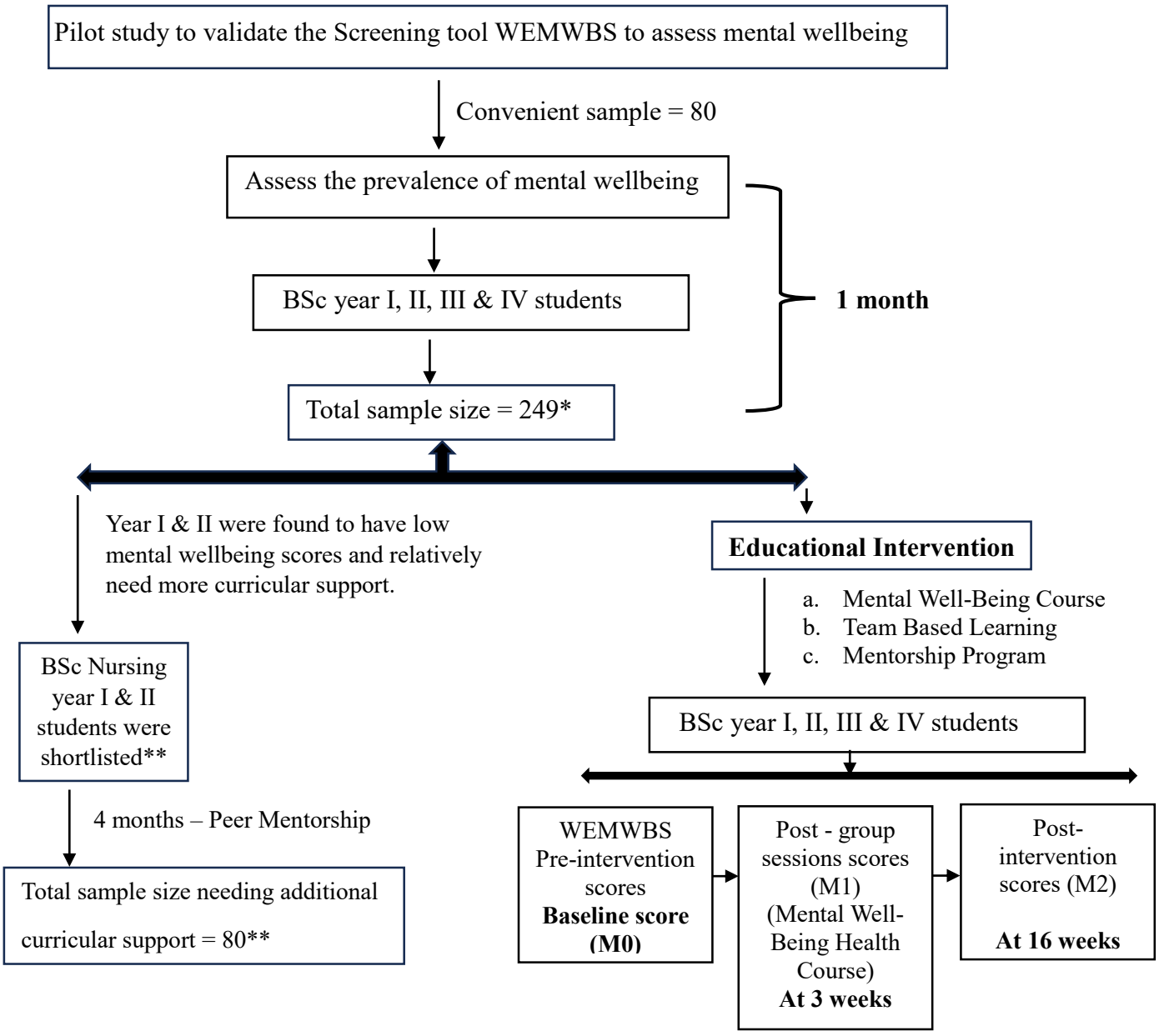
Formula $n = \frac{Z2\ 1\text{-}\alpha/2 * p\ (1\text{-}p)}{d^2}$

$n = (1.96)^2 \times 0.85 \times (1-0.85) / (0.05)^2$

= 195 number of nursing students

To compensate for potential non-response or incomplete data, 20% was added to the minimum sample size, resulting in a final sample size of 249 students.

Pilot study to validate the Screening tool WEMWBS to assess mental wellbeing


Pilot study to validate the Screening tool WEMWBS to assess mental wellbeing
Convenient sample = 80
Assess the prevalence of mental wellbeing
BSc year I, II, III & IV students
Total sample size = 249*
1 month
Year I & II were found to have low mental wellbeing scores and relatively need more curricular support.
BSc Nursing year I & II students were shortlisted**
4 months – Peer Mentorship
Total sample size needing additional curricular support = 80**
Educational Intervention
a. Mental Well-Being Course
b. Team Based Learning
c. Mentorship Program
BSc year I, II, III & IV students
WEMWBS Pre-intervention scores Baseline score (M0)
Post - group sessions scores (M1) (Mental Well-Being Health Course) At 3 weeks
Post-intervention scores (M2) At 16 weeks

Flowchart: Sample size and educational interventions used among study participants in the nursing programme

6.5 Educational Intervention

Among nursing students of I–II Year:

After enrolment, the intervention group (shortlisted SNACS students) participated in a structured near-peer–guided mentorship programme. Participants were oriented to the

objectives and process of peer mentoring and organised into small groups of 6–8 members, including six SNACS students and two peer mentors from the same academic year. Peer mentors were selected from students demonstrating effective communication skills and academic excellence in formative assessments (>70%). Students from Year III and IV were not included as mentors or participants.

Selected mentors received training and supervision from subject-expert faculty at the Assistant Professor level within the same university. Faculty oversight emphasised mentoring strategies, group dynamics, and implementation of predefined core academic competencies. To maintain uniformity, two standardised topics per academic year were selected from Human Physiology, Community Health Nursing, Communication and Education Technology, and Medical–Surgical Nursing. Each topic was delivered over one week with daily one-hour sessions for five days. Sessions focused on integrating theoretical knowledge with clinical application, supported by standardised learning objectives and resources. Each cycle concluded with a formative assessment using multiple-choice questions (MCQs) and short-answer questions (SAQs) to evaluate understanding and application of core competencies.

Among nursing students of all phases (I–IV Year):

A multidimensional intervention comprising a Mental wellbeing Health Course, mentorship programme, and Team-Based Learning (TBL) was implemented using universal sampling due to ethical concerns of withholding beneficial educational strategies. The two-week mental wellbeing course addressed stress and time management, conflict resolution, peer and parental pressure, communication, societal and self-expectations, and substance abuse. Post-course mental wellbeing scores (M1) were compared with baseline scores (M0).

Students were oriented to group mentoring and organised into groups of 6–8 members based on formative assessment performance, with two academically strong peer mentors assigned to each group. Additional one-to-one mentoring was provided to students requiring psychological support (SNAPS) based on WEMWBS scores, and to those needing academic support (SNACS). Core competencies were further reinforced through TBL, as per the AMEE TBL protocol [9], a learner-centred approach that promotes collaborative problem-solving and the application of knowledge in large classroom settings under the supervision of a subject-expert instructor.

6.6 Ethical considerations

The study was conducted over a single academic semester from November 2022 to March 2023. This study received formal ethical clearance from the Institutional Ethics Committee (IEC Approval No: SSMC/MED/IEC-168/October-2022). To mitigate potential coercion and ensure unbiased participation, the informed consent process explicitly stated that involvement was entirely voluntary and would not influence academic standing or faculty relations. All subjects provided written informed consent before the commencement of baseline data acquisition.

6.7 Data analysis

Statistical analyses were performed using IBM SPSS version 25 to evaluate the efficacy of the intervention across nursing cohorts. For Year I–II students, changes in mental wellbeing were assessed via paired samples t-tests on WEMWBS scores, with results reported through mean differences, 95% confidence intervals, and Cohen's d effect sizes. For the Year I–IV multidimensional intervention, quantitative outcomes were analysed using descriptive statistics and Chi-square tests, and the results were integrated with qualitative participant reflections. Feasibility and acceptability were assessed through content analysis and refined via multidisciplinary consultation, with statistical significance maintained at $p<0.05$.

7. RESULTS

Using a structured questionnaire, the demographics revealed a mean age of 22±3 years, with a predominantly 18–24-year-old distribution. The sample was 88% female (n=220) and 12% male (n=29), distributed across Years I–IV (32%, 26%, 20%, 22%). Most were hostellers (92%, n=229) versus day scholars (8%, n=20). The modified Kuppuswamy classification identified 4% low, 80% middle, and 16% high-income statuses.

The results indicated that students from all phases of the bachelor's programme enrolled in the study, with a relative increase in participation in phase 1 (32%). Cronbach's (1951) coefficient alpha uses data from a single test administration to determine reliability. All 14 items of the questionnaire's scale have the fewest number of redundant items, based on the general sample's Cronbach's alpha of 0.888 and the student samples' alphas of 0.886. Test-retest reliability was high at one week (0.86).

Screening of 249 B.Sc. Nursing students across all four academic levels revealed a 51.4% prevalence (n=128) of low mental wellbeing, highlighting a substantial requirement for

targeted psychological support. Median WEMWBS scores for Year I and II students were notably lower than standard reference values, whereas Year III and IV students demonstrated comparatively higher wellbeing. Based on these findings, the near-peer-guided mentorship intervention was restricted to Year I and II students identified as needing additional curricular support; students in Years III and IV did not participate in the intervention group and were not used as peer mentors in this phase.

Table 1: Comparison between preintervention vs. postintervention outcomes of structured near-peer-guided mentorship among I & II Year students for WEMWBS using paired T test.

WEMWBS	N	Mean	Std. Deviation	Std. Error Mean	Paired t-test
Pre-intervention	80	36.19	7.016	.784	P= 0.00
Post - intervention	80	55.31	3.989	.446	

To evaluate the intervention's efficacy on mental wellbeing, a paired samples t-test was performed using the Warwick–Edinburgh Mental wellbeing Scale (WEMWBS). Analysis revealed a statistically significant improvement, with mean scores rising from 36.19 (SD=7.02) at baseline to 55.31 (SD=3.99) post-intervention, $t(79) = -39.51$, $p<.001$. This mean increase of 19.13 points (95% CI: 18.16 to 20.09) represents a substantial enhancement in psychological wellbeing, characterised by an extremely large effect size ($d=4.42$). (Table 1)

Table 2: Comparison between preintervention vs. postintervention outcomes among the SNACS group using a paired T-test.

SNACS	N	Mean	Std. Deviation	Std. Error Mean	Paired t-test
Pre-intervention	80	35.2875	5.09205	.56931	P= 0.00
Post - intervention	80	54.7125	4.84231	.54139	

SNACS: Students Needing additional curricular support, df = 79

To evaluate the efficacy of the multidimensional educational approach, a paired-samples t-test was conducted on a cohort of 80 participants. The analysis revealed a statistically significant increase in scores from a pre-test mean of 35.29 (SD=5.09) to a post-test mean of 54.71 (SD=4.84), $t(79) = -34.45$, $p < .001$. This improvement of 19.43 points (95% CI: 18.30 to 20.55) corresponds to a very large effect size ($d=3.85$), signifying a substantial and clinically meaningful advancement following the intervention (Table 2).

Baseline scores (Figure 1) were compared with post-intervention outcomes, which demonstrated a marked improvement in mental wellbeing following completion of the mental health course (Figure 2).

FIGURE 1: DISTRIBUTION OF TOTAL SCORE (PRE INTERVENTION – BASELINE SCORE) OF NURSING STUDENTS

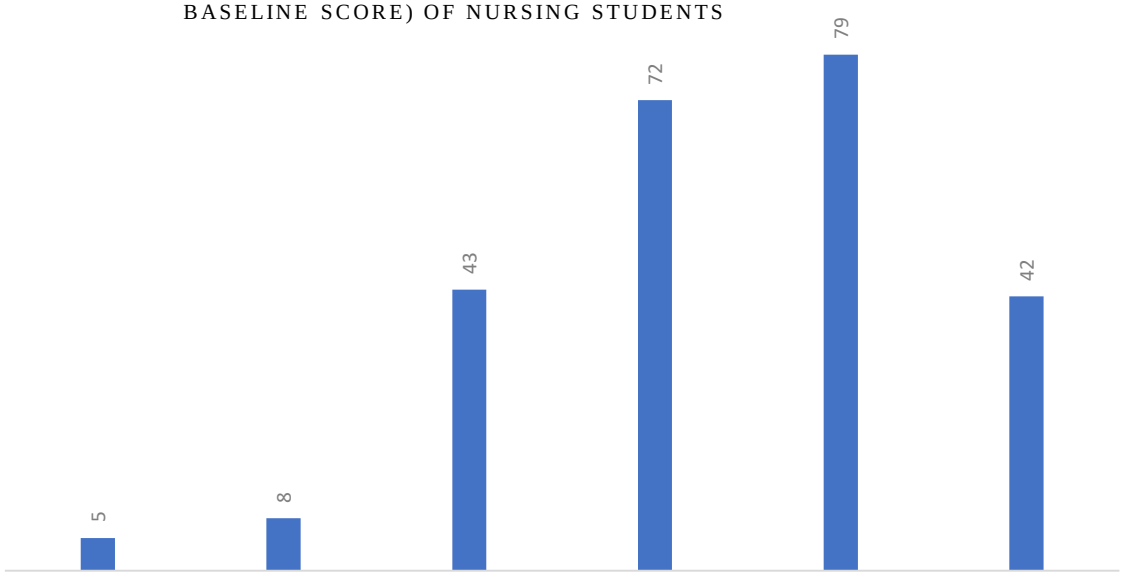
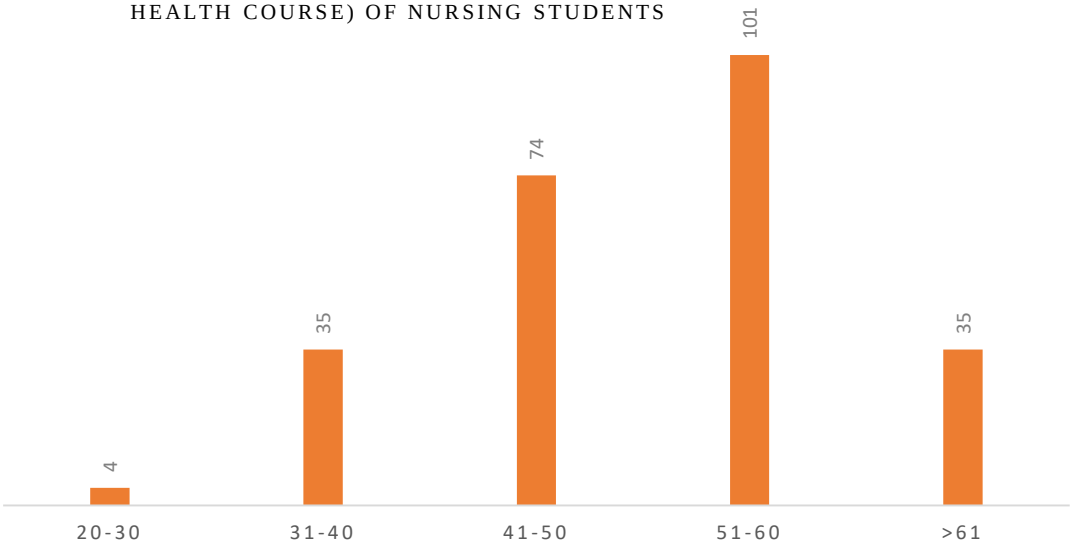


FIGURE 2: DISTRIBUTION OF TOTAL SCORE (AFTER MENTAL HEALTH COURSE) OF NURSING STUDENTS



Analysis of the multidimensional educational intervention across all four nursing cohorts revealed that Year I and II students initially exhibited the lowest wellbeing scores; specifically, 56 students scored below 40, and 72 scored between 41 and 50. In contrast, 121 students in the final two years recorded scores between 55 and 60, indicating a level of wellbeing comparable to that of students in developed nations. Phase I students demonstrated lower baseline (M0) scores, which qualitative perceptions attributed to environmental transitions, campus adjustment, and heightened expectations from parents, peers, and faculty. Following the implementation of the multidimensional approach, WEMWBS scores improved significantly across all cohorts (Table 2). While positive outcomes were observed at every stage, Year III and IV students exhibited a greater proportionate improvement in mental wellbeing.

Table 3: Comparison of Post-test wellbeing Scores Across Age Groups of the students after multidimensional Educational Intervention.

Age (Years)	**41-50**	**51-60**	**> 61**	**Total**	
18-19	5	44	30	79	$\chi 2=18.56$ df = 6, P=0.0049
19-20	3	22	41	66	
20-21	2	18	29	49	
>21	0	35	20	55	
Total	10	119	120	249	

P<0.05 is statistically significant, df = degrees of freedom, Statistical tool used: Chi-square test($\chi 2$)

Table 4: Comparison of pre-intervention vs. post-intervention over WEMWBS scores undergoing multidimensional educational intervention among nursing students.

	N	**Mean**	**Std. Deviation**	**Std. Error Mean**	**Correlation**	**Sig.**
Pre	249	48.98	11.451	.726	.855	.000
Post	249	60.26	5.101	.323		
Paired Differences	**t**	**df**	**Sig. (2-tailed)**			
	-23.524	248	.000			

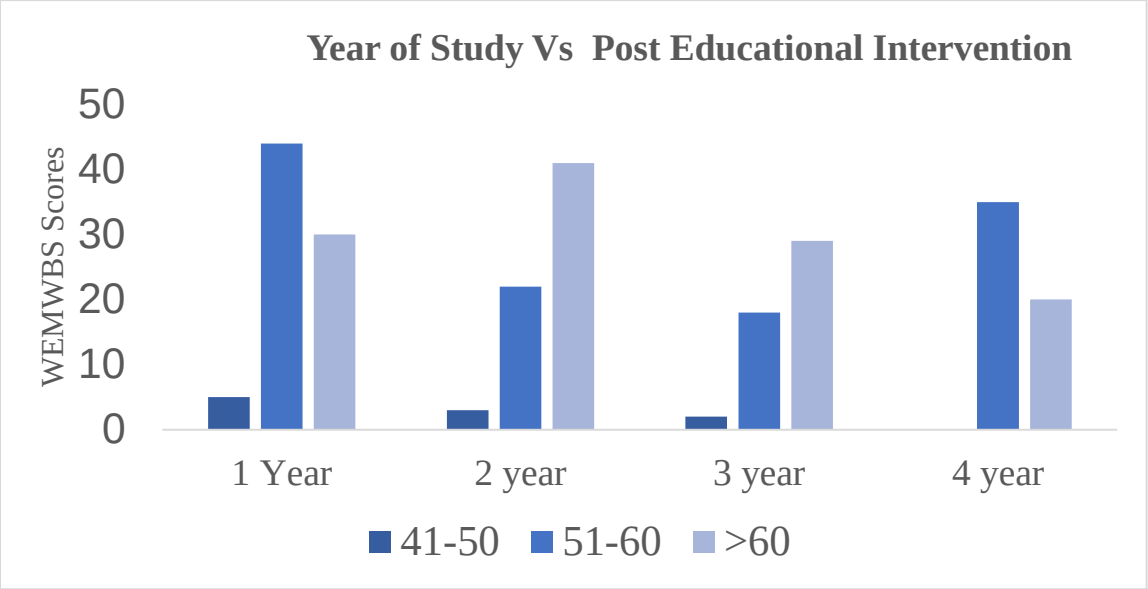
Analysis revealed a statistically significant improvement in wellbeing scores, with the mean increasing from 48.98 at pre-test to 60.26 at post-test. The substantial negative mean difference (Pre-Post = -11.28) confirms that participants achieved significantly higher scores following the intervention. Furthermore, the high t-value and p<0.001 provide robust evidence of the intervention's meaningful and reliable impact on score enhancement. A strong, significant positive correlation indicates that while the intervention elevated scores across the cohort, individual performance rankings remained consistent; students with higher baseline scores tended to maintain their relative standing post-intervention (Table 4).

Table 5: Pre and post intervention scores among the nursing students using Repeated ANOVA

Within-Subjects Effect	**Mauchly's W**	**Approx. Chi-Square**	**df**	**Sig.**	**Epsilon[b]**		
					Greenhouse-Geisser	**Huynh-Feldt**	**Lower-bound**
time	.308	290.892	2	.000	.591	.592	.500

The intervention/time produced a great and statistically significant improvement in participant scores (Table 5)

Figure 3: Percentage of progress in mental wellbeing scores after intervention at each phase among undergraduate nursing students



8. DISCUSSION

University students represent a high-risk demographic due to the combined impact of developmental transitions, environmental adaptation, academic or parental pressures, and the rigorous nature of higher education curricula. [13-16] Consequently, the early assessment and implementation of psychological interventions are imperative, as sustaining the mental wellbeing of future healthcare professionals is a foundational component of nursing education. [17]

Public health stakeholders and practitioners require robust instruments for monitoring mental wellbeing and evaluating promotion programs that remain sensitive to high-functioning populations. The Warwick–Edinburgh Mental wellbeing Scale (WEMWBS) addresses this by focusing exclusively on positive psychological states, thereby supporting mental health initiatives while avoiding ceiling effects in general population samples. [11]

Our findings indicate that the Warwick–Edinburgh Mental wellbeing Scale (WEMWBS) has robust content validity, with mental wellbeing scores increasing significantly as students progressed through the academic years. This trend suggests that greater academic exposure, stronger coping mechanisms, and improved psychosocial adjustment are pivotal for elevating student wellbeing. A strong, statistically significant positive correlation was identified between pre-test and post-test scores ($r=0.829$, $p<0.001$), demonstrating high consistency in individual performance rankings over time. (Table 1) These results align with existing literature, which

defines mental wellbeing through an individual's awareness of their potential, resilience against stressors, and successful integration into personal and social spheres. [18-22]

Our results are consistent with prior validation studies of the WEMWBS across diverse linguistic and cultural contexts. For example, research involving Chinese students yielded Cronbach's alpha values of 0.89, confirming high internal consistency. [23] These findings align with validation research by Tennant et al., [11] which reported robust content validity and reliability, with alpha values of 0.89 in student populations and 0.91 in general samples. Such consistency reinforces the scale's suitability for assessing psychological wellbeing.

Within our cohort, median WEMWBS scores across all academic phases were lower than the developers' original reference standards. However, a statistically significant upward trend in scores was observed from the initial to the final years of the program. This progression suggests that academic maturation, refined coping mechanisms, and environmental adaptation enhance psychological resilience over time. These observations support existing literature regarding the deleterious effects of stress, workload, [24-26] and academic pressure on students during the foundational stages of professional education. [27-29]

This study assessed subjective wellbeing and the impact of a structured near-peer-guided mentoring program on the academic performance of first- and second-year nursing undergraduates. A paired samples t-test (N=80) revealed a statistically significant and substantial improvement in scores. The mean increased from 35.29 (SD=5.09) pre-intervention to 54.71 (SD=4.84) post-intervention, $t(79) = 34.45$, $p < .001$. The average enhancement of 19.43 points (95% CI: 18.30 to 20.55) signifies a high-magnitude, meaningful intervention effect. (Table 2) These results align with existing literature suggesting that peer mentors, being more approachable than faculty, effectively mitigate stress while fostering social and academic integration. Furthermore, the face-to-face modality employed here was seamlessly integrated and achieved higher acceptance than the implementation challenges often reported in digital mentoring models. [30-32]

While mentoring evaluations typically focus on the mentee's perspective, emerging evidence indicates that peer mentors also derive significant benefits, including enhanced communication, leadership, and self-confidence. [33,34] The present findings corroborate this, as peer mentors reported substantial personal and interpersonal development. This reinforces the reciprocal utility of peer-mentoring systems, aligning with studies where mentors experienced increased professional pride, improved conflict resolution, and strengthened

leadership capabilities. [35,36] Furthermore, the post-intervention improvement in mental wellbeing scores suggests that the mental health course effectively enhanced students' self-care practices and their ability to manage socio-environmental expectations from peers, parents, and society (Figure 2). Cultivating robust self-care habits is a fundamental strategy for mitigating psychological distress. Evidence suggests that intentional self-care techniques are instrumental in reducing stress among nursing students. [37] Complementary research indicates that even brief interventions, such as 10-minute mindfulness exercises, can significantly diminish stress and improve present-moment awareness within this population. [38]

In this study, the synthesis of group mentoring followed by individualized expert mentorship was pivotal to the participants' professional development, effectively alleviating learning-related apprehensions as reported in student perceptions. These findings align with similar standalone research conducted among healthcare professionals. [39,40]

Team-Based Learning (TBL), an active learning strategy that leverages collaborative strengths to achieve shared objectives, resulted in superior performance on the covered topics. Student reflections indicated that TBL sessions heightened engagement and conceptual clarity, fostering confidence in future examination performance. These results corroborate existing literature in health specialties, which reports increased student satisfaction, engagement, and long-term knowledge retention through TBL, while also noting its potential to reduce faculty workload. [41-44]

The present study demonstrates that a multidimensional educational approach effectively enhances the mental wellbeing of nursing students across all academic phases (Figure 3). Each intervention component exerts an additive effect, contributing to comprehensive improvement in students' psychological health (Table 4). Establishing a nurturing educational environment requires cohesive collaboration between clinical educators, students, and personnel. Ultimately, early screening and targeted interventions are essential to mitigate the burden of mental illness; fostering positive mental health within a predominantly young population will enhance overall national productivity.

Study Limitations

The generalizability of these findings is constrained by the single-center design and the sample, which is restricted to nursing students. Ethical constraints precluded the use of a control group, and the absence of long-term follow-up across the full curriculum limits the assessment of

sustained intervention efficacy. Furthermore, the 99% female participant rate prevented a comparative analysis of gender-based differences in mental wellbeing outcomes.

Recommendations

Future research should employ multi-center, longitudinal designs across diverse healthcare disciplines to enhance external validity. Incorporating randomized control or comparison groups is recommended to isolate the specific efficacy of individual multidimensional intervention components and to provide deeper insights into the broader determinants of student psychological health.

9. SUMMARY AND CONCLUSION

Using the pre-validated WEMWBS, this study identified suboptimal median wellbeing scores across all academic phases, particularly among early-year students, attributed to the rigorous transitional and academic demands of professional education. This highlights a critical need for universal mental health screening within healthcare disciplines.

Integrating structured peer-mentorship and active learning strategies, such as Team-Based Learning (TBL), into curricula significantly enhances self-care, professional communication, and academic accountability. Such multidimensional, ongoing support networks are essential for mitigating stress-related deterioration and improving student achievement. Ultimately, addressing the multifactorial etiology of student distress through comprehensive, multifactorial interventions will effectively reduce the broader societal burden.

10. REFERENCES

1. World Health Organization. Mental health: strengthening our response. Geneva: WHO; 2018.

2. Watson MF, Patti M. The relationship between nursing students' psychological distress and perceived stress in the nursing educational environment. Nurs Educ Perspect. 2025;46(1):19-24. (PubMed)

3. Labrague LJ, McEnroe-Petitte DM, de los Santos JAA, Edet OB. Examining stress perceptions and coping strategies among nursing students: a systematic review. Nurse Educ Today. 2018; 65:192-200.

4. Watson R, Gardiner E, Hogston R, Gibson H, Stimpson A, Wrate R, et al. A longitudinal study of stress and psychological distress in nurses and nursing students. J Clin Nurs. 2009;18(2):270–278.

5. Ko KY, Montayre JR, Chiu PL, Lai TKH, Chan K, Chan HHT. Effects of interventions to reduce clinical placement-related psychological distress among nursing students: A systematic review with meta-analysis. Int J Nurs Stud Adv. 2025 Oct 13; 9:100435.

6. Hikmat R, Yosep I, Mardhiyah A. A scoping review of nursing interventions to improve resilience among university students during online learning. BMC Nurs. 2025; 24:913.

7. Martin B, Peck B, Ryan L, Davies A, Terry D. Supporting Mental Health and Physical Wellbeing Among Nursing Students Through Yoga: A Mixed-Methods Study. Nurs Rep. 2025 Aug 20;15(8):305.

8. Blodgett JM, Birch JM, Musella M, Harkness F, Kaushal A. What Works to Improve Wellbeing? A Rapid Systematic Review of 223 Interventions Evaluated with the Warwick-Edinburgh Mental wellbeing Scales. Int J Environ Res Public Health. 2022 Nov 28;19(23):15845.

9. Regehr C, Glancy D, Pitts A. Interventions to reduce stress in university students: a review and meta-analysis. J Affect Disord. 2013;148(1):1–11.

10. Zhang W, Balloo K, Hosein A, Medland E. A scoping review of wellbeing measures: conceptualisation and scales for overall wellbeing. BMC Psychol. 2024 Oct 23;12(1):585.

11. Stewart-Brown S, Tennant A, Tennant R, et al. The Warwick-Edinburgh Mental wellbeing Scale (WEMWBS): development and UK validation. Health Qual Life Outcomes. 2007; 5:63.

12. Tung YJ, Lo KKH, Ho RCM, Tam WSW. Prevalence of depression among nursing students: A systematic review and meta-analysis. Nurse Educ Today. 2018; 63:119-129.

13. Ibrahim AK, Kelly SJ, Adams CE, Glazebrook C. A systematic review of studies of depression prevalence in university students. J Psychiatr Res. 2013;47(3):391-400.

14. Gao L, Xie Y, Jia C, Wang W. Prevalence of depression among Chinese university students: a systematic review and meta-analysis. Sci Rep. 2020;10(1):15897.

15. Acharya L, Jin L, Collins W. College life is stressful today - Emerging stressors and depressive symptoms in college students. J Am Coll Health. 2018;66(7):655-64.

16. Othman N, Ahmad F, El-Morr C, Ritvo P. Perceived impact of contextual determinants on depression, anxiety, and stress: a survey with university students. Int J Ment Health Syst. 2019; 13:17.

17. Sonmez Y, Akdemir M, Meydanlioglu A, Aktekin MR. Psychological Distress, Depression, and Anxiety in Nursing Students: A Longitudinal Study. Healthcare (Basel). 2023;11(5):636.

18. Carragher J and McGaughey J. The effectiveness of peer mentoring in promoting a positive transition to higher education for first-year undergraduate students: a mixed methods systematic review protocol. Systematic Reviews.2016;22(5):68.

19. Marmara J, Zarate D, Vassallo J, Patten R, and Stavropoulos V. Warwick Edinburgh Mental wellbeing Scale (WEMWBS): measurement invariance across genders and item response theory examination. BMC Psychology. 2022;10(1):31.

20. Clarke A, Friede T, Putz R, Ashdown J, Martin S, Blake A et al. Warwick-Edinburgh Mental wellbeing Scale (WEMWBS): validated for teenage school students in England and Scotland. A mixed methods assessment. BMC Public Health. 2011; 11:487.

21. Pakpour AH, Eriksson M, Erixon I, Broström A, Bengtsson S, Jakobsson M et al. The Short Warwick-Edinburgh Mental wellbeing Scale (SWEMWBS) - A psychometric evaluation of adolescents in Sweden during the COVID-19 pandemic, Heliyon,2024,10(6) e27620.

22. Ekinci N. Mental wellbeing in Adolescence: A Systematic Review. Psikiyatride Güncel Yaklaşımlar - Current Approaches in Psychiatry. 2024;16(1):102-110.

23. Fung SF. Psychometric evaluation of the Warwick-Edinburgh Mental wellbeing Scale (WEMWBS) with Chinese University Students. Health Quality Life Outcomes. 2019;17(1):46.

24. Alam MJ, Pratik MIK, Khan AH, Islam MS, and Hossain MM. Prevalence and level of stress among final-year students at a health science institute in Bangladesh. Discov Ment Health. 2025;5(1):9.

25. Pérez-Jorge D, Boutaba-Alehyan M, González-Contreras AI, Pérez-Pérez I. Examining the effects of academic stress on student wellbeing in higher education. Humanities and Social Sciences Communications, 2025;12:449.

26. de Filippis R and Foysal AA. Comprehensive analysis of stress factors affecting students: a machine learning approach. Discover Artificial Intelligence,2024;4:62.

27. Shivasakthy M, Sethuraman KR, & Carounanidy U. Learn Slow, achieve low - Students Needing Additional Curricular Support and Psychological Support (SNACS, SNAPS). International Education and Research Journal (IERJ),2016; 2(9):9-10

28. Kaur A. Maslow's Need Hierarchy Theory: Applications and Criticisms. Global Journal of Management and Business Studies 2013;3(10):1061-64

29. Toreid HE, Mosseng-Sjølie BH, Bjørbæk SAKöhler M. Digital peer mentoring in higher education: Results from a qualitative study involving digital part-time nursing students. Heliyon. 2025;11(4):e42454.

30. Toreid HE, Mosseng-Sjølie BH, Bjørbæk SAKöhler M. Digital peer mentoring in higher education: Results from a qualitative study involving digital part-time nursing students. Heliyon. 2025;11(4):e42454. doi: 10.1016/j.heliyon.2025.e42454.

31. Al-Sowygh ZH. Academic distress, perceived stress, and coping strategies among dental students in Saudi Arabia. Saudi Dental Journal. 2013;25(3):97-105.

32. Atif S, Mustafa N, Ghafoor S. Perceived stress and coping strategies used by undergraduate dental students: An observational study. PLoS One. 2025;20(1): e0318152.

33. Eryılmaz A. Mental control: how do adolescents protect their subjective wellbeing? The Journal of Psychiatry and Neurological Sciences 2012; 25:27-34.

34. Benigni M & Petrosky S. Mentoring Matters: A Toolkit for Organizing and Operating Student Advisory Programs. 2011; 10.5771/9781607099413.

35. Won MR & Choi YJ. Undergraduate nursing student mentors' experiences of peer mentoring in Korea: A qualitative analysis. Nurse Education Today. 2017; 51:8-14.

36. Eby LT, Allen TD, Evans SC, Ng T, & Dubois D. Does Mentoring Matter? A Multidisciplinary Meta-Analysis Comparing Mentored and Non-Mentored Individuals. Journal of Vocational Behavior. 2008;72(2):254-267.

37. Hensel D, Laux M. Longitudinal study of stress, self-care, and professional identity among nursing students. Nurse Educ. 2014;39(5):227-31.

38. Koren ME. Mindfulness interventions for nursing students: application of modelling and role modelling theory. Int. Journal of Caring Sciences. 2017;10 (3):1710-16.

39. Orsini, J. (2023), Mentoring and wellbeing in Higher Education. J Leadersh Stud, 17: 74-80.

40. Al Qahtani S. Students' knowledge of, and attitudes toward, mentoring: a case study at the Master's Program in Health and Hospital Administration. Adv Med Educ Pract. 2015; 6:149-52.

41. Faezi ST, Moradi K, Ghafar Rahimi Amin A, Akhlaghi M, Keshmiri F. The effects of team-based learning on learning outcomes in a course of rheumatology. J Adv Med Educ Prof. 2018;6(1):22-30.

42. Koohestani HR, Baghcheghi N. The effects of team-based learning techniques on nursing students' perception of the psycho-social climate of the classroom. Med J Islam Repub Iran. 2016; 30:437.

43. Alizadeh M, Masoomi R, Mafinejad MK, Parmelee D, Khalaf RJ, Norouzi A. Team-based learning in health professions education: an umbrella review. BMC Med Educ. 2024;24(1):1131.

44. Buljac-Samardzic M, Dekker-van Doorn CM, van-Wijngaarden JD, van-Wijk KP. Interventions to improve team effectiveness: a systematic review. Health Policy. 2010;94(3):183-95.

INSTITUTIONAL ETHICS COMMITTEE
Sri Siddhartha Medical College
Agalakote, BH Road, Tumkur – 572 107
email : ssmciec@gmail.com

ETHICAL APPROVAL LETTER

Ref No: SSMC/MED/IEC-168/October-2022 **Date**: 27/09/22

To,

Dr Syed Sadat Ali

Title of the Protocol: "A mixed method study to assess the role of an educational intervention in facilitating the mental wellbeing among nursing undergraduate students"

Department: **Physiology**

Dear Dr,

The Institutional Ethics committee of Sri Siddhartha Medical College has reviewed and discussed your application to conduct the above mentioned clinical research title in your department with yourself as the Principal investigator.

The ethics committee meeting was held on 12/07/2022 with the committee members available for discussion and approval.

The committee approved the research to be conducted in the presented form. None of the Investigator and co-investigator participating in this study took part in the decision making and voting procedure for this study.

The institutional ethics committee expects to be informed about the progress of the study, any SAE occurring during the study period, any revision in the protocol and patient information/informed consent has to be provided.

This Ethics committee is working in accordance to ICH-GCP, Schedule Y and ICMR guidelines and other applicable regulation.

Yours Sincerely

(Dr.Indushree T)
SECRETARY,
I. E. C.,
Sri Siddhartha Medical College
Agalakote, TUMKUR-7.

Govt. Tiruvannamalai Medical College and Hospital

DEEPAM MedCON'26

National Medical Education Conference - DMER (North Zone)

CERTIFICATE OF PARTICIPATION

This is to Certify that

Dr. / ~~Mr. / Mrs.~~ SYED SADAT ALI FROM IHPE, SRI BALAJI VIDYAPEETH (DU), PONDICHERRY

for presenting a Paper at **DEEPAM MedCON'26** organized by the

Medical Education Unit, Govt.Tiruvannamalai Medical College

on 23rd and 24th January 2026.

Dr.A.Precilla Catherine MD.,PhD	Dr.P.Sangeetha MD.,	Dr.D.Malathy MS.,DGO
MEU COORDINATOR	VICE PRINCIPAL	DEAN (FAC)
ORGANIZING SECRETARY	MEU CO-COORDINATOR	ORGANIZING CHAIR PERSON

Govt. Tiruvannamalai Medical College and Hospital

DEEPAM MedCON'26

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Dr. / ~~Mr / Mrs~~. SYED SADAT ALI FROM IHPE, SRI BALAJI VIDYAPEETH (DU), PONDICHERRY

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Article in Press

Original Article

Multidimensional Education Intervention for Improving Mental Well-Being Among Undergraduate Nursing Students

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ABSTRACT

Objectives: Mental health concerns among university students are a global issue, and well-being is linked to success in various areas. The mental wellness of the students in professional courses has a profound effect on their academic performance. The research studies on a multidimensional approach to improve mental well-being in nursing students are limited. Hence, the current study was undertaken to assess the impact of multidimensional intervention in improving the mental well-being of undergraduate nursing students.

Material and Methods: This was an educational intervention study to provide a comprehensive understanding of the intervention's role in improving the mental well-being of nursing students in southern India. A total of 249 nursing students from I-IV-year undergraduate courses between the ages of 18-24 years from August 2022 to November 2023 were enrolled to go through educational intervention of mental health course, mentorship programme, and team-based learning (TBL) based on their baseline scores of Warwick-Edinburgh Mental Well-being Scale (WEMWBS). Descriptive statistics, including means with standard deviation and percentages accompanied by a 95% confidence interval, were calculated. Chi-square test was used to assess the outcome of the intervention. Content analysis was used to assess the qualitative data.

Results: Mental health course on self-care practices showed improvement in the mental well-being scale with statistically significant change across the age groups and at all the academic years of nursing students. The WEMWBS scores after implementation of the educational approach showed a gross and statistically significant improvement in mental well-being across all the phases.

Conclusion: The integration of self-care and group mentoring with the mental health course has uplifted students' mental well-being. Guiding students needing curricular and psychological support as components of a plan in our research has promoted mental well-being among the affected group. This has added to the accountability of students in their learning process, keeping them at the centre of learning. Further studies across all streams of health sciences will help reduce the burden of increased mental well-being among university students.

Keywords: Mental well-being, Mixed method study, Multidimensional, Team-based learning, Self-care

INTRODUCTION

Mental health issues of professional students are a global concern that needs to be addressed.[1] One of the Sustainable Development Goals (SDGs) set by the United Nations (UN) is to ensure healthy lives and foster well-being for individuals of all ages. The concept of "well-being" is commonly understood as a person's overall state of physical, mental, and social health. It relates to an individual's mindset, mental stability, and overall quality of life.[2,3]

Well-being is linked to success in various areas, including professional, personal, and social realms, as individuals with higher well-being generally exhibit improved productivity at work, better learning abilities, increased creativity, more supportive behaviours, and healthier relationships. The current shortage of nurses highlights the importance of addressing the psychological needs of nursing students and fostering an educational environment that promotes safe and effective learning. The mental wellness of nursing students and the surrounding educational context can greatly affect their academic performance. It is crucial to explore changes to the educational setting and to implement suitable interventions.[4,5]

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Original article

Effectiveness of structured Near peer-guided Mentorship intervention in improving Academic Performance & Mental well-being among university nursing students at tertiary hospital in Karnataka: A quasi-experimental Study.

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ABSTRACT

Introduction: The significance of mental health is becoming more widely recognized as it adds to quality of life. Relationships of mentoring can promote both professional and personal development which would in-turn improve mental wellbeing. Objectives: To assess the prevalence of mental wellbeing & effectiveness of structured peer-guided mentorship in improving academic performance & mental wellbeing among undergraduate nursing students who need additional curricular support & has low mental well-being. **Materials & Methods:** A quasi-experimental pre–post interventional design was developed & conducted among 249 undergraduate nursing students between November 2022 to March 2023 by the department of physiology & medical education in nursing institute under Sri Sidhartha Academy of Higher Education to assess the prevalence of mental wellbeing by using Warwick Edinburg Mental Well-being Scale (WEMWBS) in English after validating it in current setting. Internal consistency was evaluated utilising cronbach's alpha. Of these 249 students, year I & II students had relatively lower mental wellbeing scores and were found in need of additional curricular support based on their formative assessments scores. A total of 80 students of year I & year II were selected who had formative assessment scores less than 50%. These students were let to go through near peer-guided mentoring for core competencies in their academic year. Paired t test was used and data was analysed using IBM SPSS Statistics (Version 26). **Results:** Among undergraduate nursing students, it was demonstrated that low mental wellbeing scores was more common in years I & II relative to later years. The near peer-guided mentorship programme facilitated statistically significant ($P<0.001$) at 5% level improvement in academic performance & mental well-being scores. **Conclusion:** The nursing professionals need to be cared for their mental well-being in their earlier years of academic life with suitable educational interventions as they are affected by the transition phase at university. This will enable individuals to reach their full potential & achieve academic performance to their best.

Keywords: Nursing Education, Peer Group, Psychometrics, Mental Health, Academic performance, Curriculum development, Undergraduate.

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85104Manuscript Accepted

1 message

JCDR Admin <editorial@jcdr.net> Sat, Feb 7, 2026 at 3:48 PM
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Ref no: 85104
Title: Effectiveness of structured Near peer-guided Mentorship in improving Academic Performance & Mental well-being among university students in Southern India

Dear Dr Syed Sadat Ali

We are pleased to inform you that your First/Revised article has been reviewed and accepted* in Journal of Clinical and Diagnostic Research.

It has been sent for further processing.

*Authorship: No changes in the authorship will be entertained post acceptance. Exception to this will be made only with proper justification supported by institution/university head.

Regards,
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